



RADIO CONTROL M5 STUART TANK

Owner's Manual with Assembly Instructions

Please read this manual and save it.

For Model RC09037

Use only with a 12 Volt (7.0 Amp/Hr.) Battery, 12 Volt (2.0 Amp/Hr.) Charger (all included).

© 2003 21st Century Toys, Inc.
San Leandro, CA. 94577 USA
All Right Reserved. Printed in China

Table of Contents

A	Important Information	2
B	Warnings and Cautions	3
C	Parts	4
D	Battery Charging	5
E	Battery Installation	10
F	Battery Care and Disposal	17
G	Caring For Your M5 Stuart Tank	18
H	How to Operate Your M5 Stuart Tank	19
I	Problems and Solutions Guide	21

A Important Information

- You must charge your battery for 18 - 30 hours **before you use your M5 Stuart Tank for the first time**. We recommend that you start charging your battery before beginning assembly. Please see Battery Charging section beginning on page 5 for detailed instructions.
- Read this manual carefully for important safety information and operating instructions before using your M5 Stuart Tank. Please keep this manual for future reference as it contains important information.

- This M5 Stuart Tank is designed for use: on hard surfaces; on generally level terrain; and by children 8 years of age and up.
- To prevent damaging the motors and gears, do not tow anything behind the M5 Stuart Tank or overload it.
- If you have any questions about your M5 Stuart Tank, please call our service lines at **1-510-481-6010** from 9 AM to 5 PM (EST) Monday through Friday. Trained customer service representatives are available to take your call in English.

B

Warnings and Cautions

ELECTRICAL HAZARD

WARNING !

- **PREVENT FIRE**

- Never modify the electrical system. Alterations could cause a fire resulting in serious injury and could also ruin the electrical system.

- Use of the wrong type battery or charger could cause a fire or explosion resulting in serious injury.

- Use of Ultimate Solider® components in products other than Ultimate Solider® M5 Stuart Tank could cause overheating, fire or explosion.

- The battery must be handled by adults only. The battery is heavy and contains sulfuric acid (electrolyte). Dropping the battery could result in serious injury.

- Never allow children to charge the battery. Battery charging must be done by adults only. A child could be injured by the electricity involved in charging the battery.

- Never lift or carry the battery by the wires or connector. This can damage the battery and possibly cause a fire resulting in serious injury. Lift and carry the battery by the case only.

- Read the safety instructions on the battery.

- Examine the battery, charger and their connectors for excessive wear or damage each time you charge the battery. If damage or excessive wear is detected, do not use the charger or the battery until you have replaced the worn or damaged part.

CAUTIONS !

- Use the charger in dry locations only.

C

Parts

- If you experience a problem with this product, or are missing a part, please call us at **1-510-481-6010**, rather than return this product to the store.
- Please identify all parts before assembly and save all packaging material until assembly is complete to ensure that no parts are discarded.



M5 Stuart Tank



Radio Controller



12 Volt Battery



12 Volt Battery Charger



12 Volt Battery Connector

D

Battery Charging

ELECTRICAL HAZARD

WARNING !

- **PREVENT FIRE**

- Never modify the electrical system. Alterations could cause a fire resulting in serious injury and could also ruin the electrical system.
- Use of the wrong type battery or charger could cause a fire or explosion resulting in serious injury.
- Use of Ultimate Solider® components in products other than Ultimate Solider® M5 Stuart Tank could cause overheating, fire or explosion.
- The battery must be handled by adults only. The battery is heavy and contains sulfuric acid (electrolyte). Dropping the battery could result in serious injury.
- Never allow children to charge the battery. Battery charging must be done by adults only. A child could be injured by the electricity involved in charging the battery.
- Never lift or carry the battery by the wires or connector. This can damage the battery and possibly cause a fire resulting in serious injury. Lift and carry the battery by the case only.
- Read the safety instructions on the battery.
- Examine the battery, charger and their connectors for excessive wear or damage each time you charge the battery. If damage or excessive wear is detected, do not use the charger or the battery until you have replaced the worn or damaged part.

CAUTION !

- Use the charger in dry locations only.

Important Notes

- **Your new battery must be charged for at least 18 hours before you use it in your M5 Stuart Tank for the first time.**
- We recommend that you start charging your battery before beginning assembly of your new M5 Stuart Tank.
- The battery must be upright while charging.
- The charger is not a toy.
- Do not short circuit the battery.
- The battery **MUST** be removed from your M5 Stuart Tank each time you recharge the lead acid rechargeable battery.
- Before charging the battery, examine the battery case for cracks and other damage which may cause sulfuric acid (electrolyte) to leak during the charging process. If damage is detected, do not charge the battery or use it in your M5 Stuart Tank. Battery acid is very corrosive and can cause severe damage to surfaces it contacts.
- Do not charge the battery on a surface which could be damaged by the acid contained inside the battery. Take precautions to protect the surface on which you charge your battery.
- Use only a 12 volt (2.0 Amp/Hr.) charger with an input of 120 VAC, 60 Hz, 24W and an output of 12V DC, 2000 mA to charge your rechargeable 12 volt (7.0 Amp/Hr.) battery.
- If your battery is old and will not accept a full charge, do not leave it in the M5 Stuart Tank. Always remove a dead battery from the M5 Stuart Tank.

IMPORTANT! The battery must be removed from your M5 Stuart Tank each time you recharge it.

1



- Using a Phillips screwdriver, loosen the screws from the battery hatch. Open the battery hatch from the battery compartment.

2



- Using a Phillips screwdriver, loosen the screws from the battery clamp. Remove the battery clamp from the battery compartment.

3



- Remove the battery connector from the M5 Stuart Tank harness connector.

4



- Remove the 12 Volt (7.0 Amp/Hr.) battery from the battery compartment.

5



- Plug the charger connector into the battery connector.

6



- Plug the charger into a standard 120 volt wall outlet.

Note: If power flow to the wall outlet is controlled by a switch, make sure the switch is “ON”.

- **Before first time use, charge the battery for at least 18 hours.** Never charge the battery longer than 30 hours.
- Recharge the battery for at least 14 hours after each use of your vehicle. Do not charge the battery longer than 30 hours.
- Once the battery is charged, disconnect the charger connector from the battery connector. Unplug the charger from the wall outlet. The battery is now charged and is ready to be installed in your M5 Stuart Tank. Please see "Battery Installation" on page 10 for detailed battery installation instructions.

E

Battery Installation

M5 Stuart Tank:

IMPORTANT! Use only a 12 Volt (7.0 Amp/Hr.) battery. Use of any other battery will damage your M5 Stuart Tank. Make sure that you charge the battery for at least 18 hours using the enclosed 12 Volt charger before operating your M5 Stuart Tank for the first time. Charge the battery for at least 14 hours after each use of the M5 Stuart Tank. Never charge the battery longer than 30 hours. Failure to follow these instructions may damage your battery and will void your warranty.

1

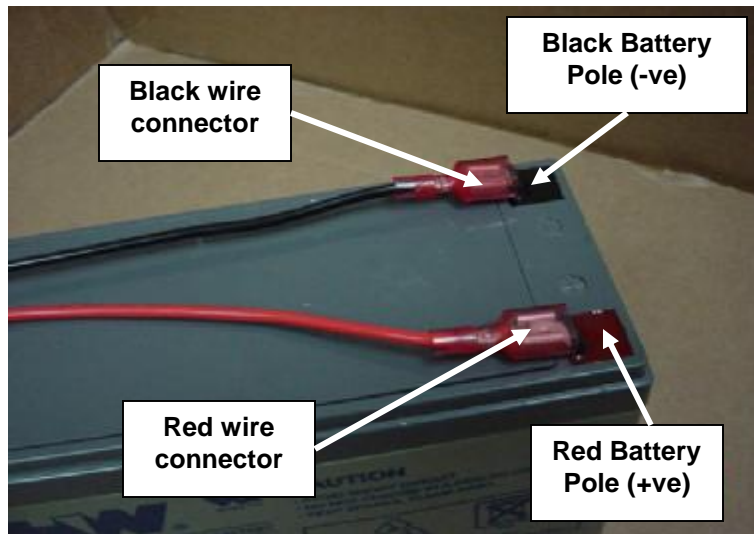


- Switch the power to "OFF".
- Using a Phillips screwdriver, loosen the screws from the battery hatch. Open the battery hatch from the battery compartment.

2



- Using a Phillips screwdriver, loosen the screws from the battery clamp. Remove the battery clamp from the battery compartment.



- **ATTENTION:** Make sure the battery connector wires connected to the same color of the battery pole i.e. black color wire connector connected to black color battery pole (-ve) and red color wire connector connected to red color battery pole (+ve).
- Place the 12 Volt (7.0 Amp/Hr.) battery upright in the battery compartment. Make sure the battery connector extends toward of the M5 Stuart Tank body.

4



- Plug the battery connector into the M5 Stuart Tank harness connector.

5



- Position the battery clamp over the battery with the ends of the battery clamp aligned with the screw holes in the battery compartment.

6



- Insert the screws through the ends of the battery clamp into the battery compartment.

7



- Tighten the screws with a Philips screwdriver. Do not over-tighten.

8



- .Close the battery hatch & tighten screw securely. Do not over-tighten.

Note: If the battery connector will not plug into the M5 Stuart Tank harness connector, turn it over and try again! Do not force the battery connector into the M5 Stuart Tank harness connector.

IMPORTANT! Always remember to keep the battery hatch locked at all times to prevent children from accessing the battery.

Radio Controller:



- Switch the power to "OFF".
- Unscrew the battery hatch located on the back of the radio controller with a Philips screwdriver and remove it.



- Insert one 9-Volt battery in the proper direction as indicated inside the battery compartment.
- Replace the battery hatch & tighten screw securely.

F

Battery Care and Disposal

Care

If a battery leak develops, avoid contact with the leaking acid and place the damaged battery in a plastic bag. See information below for proper disposal.

If acid comes in contact with skin or eyes, flush with cool water for at least 15 minutes and call a physician.

If acid is internally ingested, give water, milk of magnesia or egg whites immediately. Never give emetics or induce vomiting. Call a physician.

- Charge a new battery for at least 18 hours before first use. Never charge the battery longer than 30 hours. Overcharging or undercharging the battery may shorten battery life and decrease vehicle running time.

- After the first charge, recharge the battery for at least 14 hours after each use. Never charge the battery longer than 30 hours. Charge the battery after each use, regardless of how long the vehicle was used.

- The battery must be upright while charging.

- Do not allow the battery to run down completely before charging.

- Charge the battery before storing the vehicle.

- Charge the battery at least once per month, even if the vehicle has not been used.

- Leaving the battery in a discharged condition will ruin it.

- Always remove an exhausted battery from the vehicle. Battery leakage and corrosion can damage the vehicle.

- Do not store the battery on a surface which could be damaged by the acid contained inside the battery. Take precautions to protect the surface on which you store the battery.

- Do not store the battery in temperatures above 75° F or below -10° F.

- Prevent the battery from moving freely inside the battery compartment. **Always use the battery clamp to secure the battery in the battery compartment.**

- Examine the battery, charger and their connectors for excessive wear or damage each time you charge the battery. If damage is detected, do not use the charger or the battery until you have replaced the worn or damaged part.

Disposal

- Your battery is a sealed lead-acid battery. It must be recycled or disposed of in an environmentally sound manner.

- Do not dispose of a lead-acid battery in your regular household trash. The incineration, land filling or mixing of sealed lead-acid batteries with household trash is prohibited by law in most area.

- Return exhausted batteries to federal or state approved lead-acid battery recycler, or a local seller of automotive batteries. Contact your local waste management officials for other information regarding the environmentally sound collection, recycling and disposal of lead-acid batteries. If you live in the State of Florida or Minnesota, it is prohibited by law for anyone to throw away lead-acid batteries in the municipal waste stream.

G

Caring For Your M5 Stuart Tank

- During snowy or rainy weather, the M5 Stuart Tank should be stored inside or under a protective cover. Remember to charge the battery at least once per month while your M5 Stuart Tank is not in regular use.
- Avoid operating the M5 Stuart Tank in wet or snowy conditions. Water or moisture in the motors or electrical switches can cause them to corrode, and could cause switch or motor failure.
- Avoid operating the M5 Stuart Tank on sand, loose dirt or gravel. Sand, loose dirt or gravel in the motors or electrical switches can cause them to jam, and could cause switch or motor failure.
- The M5 Stuart Tank can be wiped with a soft, dry cloth.

H

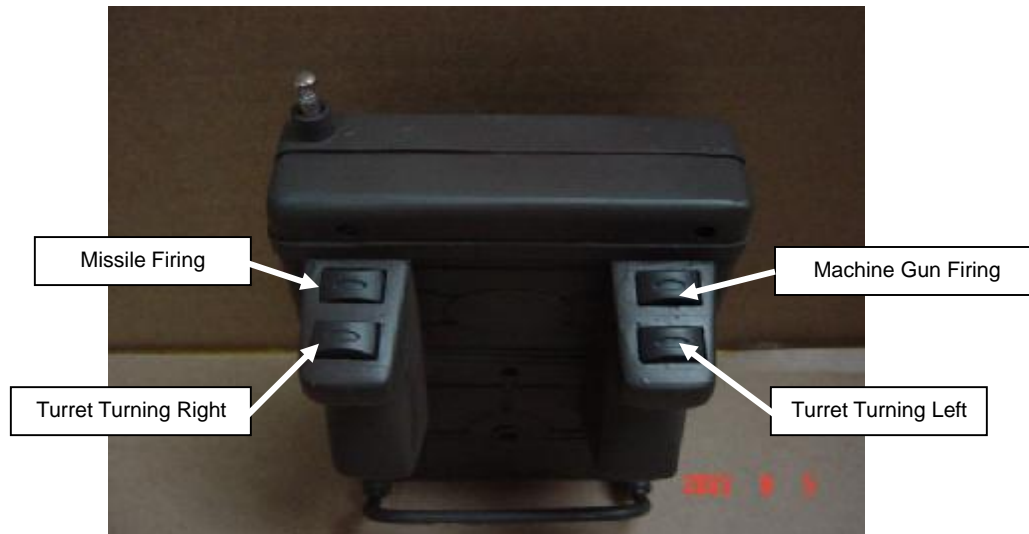
How to Operate Your M5 Stuart Tank

- To operate a M5 Stuart Tank individually, slide the Channel Switch of the M5 Stuart Tank (rear tank body) and Radio Controller (left side of the radio controller) to “A” position.
- To operate two M5 Stuart Tanks simultaneously, slide the Channel Switches of first Tank Body and first Radio Controller to “A” position; and slide the Channel Switches of second Tank Body and second Radio Controller to “B” position.



- Extend the antenna of the Radio Controller.
- Use the left & right control sticks to control the M5 Stuart Tank to move FORWARD, BACKWARD, LEFT and RIGHT





- Push the TURRET TURNING buttons to rotated the turret left or right direction
- Insert the missile into the main cannon then push the MISSILE FIRING buttons to launch the missile (with missile firing sound effect & recoil motion).
- Push the MACHINE GUN FIRING buttons to generated machine gun firing sound effect.
- After approximately 45 minutes, your M5 Stuart Tank will begin to lose its power. Simply follow the steps outlined in the “Battery Charging” section to recharge your M5 Stuart Tank.

Operation Tips and Helpful Hints:

- Do not operate during thunderstorms.
- When your M5 Stuart Tank starts to loose power, it may experience loss of functions of performance ability. If this happens, simply recharge your battery again and/or replace the radio controller battery.
- Your M5 Stuart Tank is operated by radio waves. It is possible the unit may not perform properly due to interference from nearby devices such as a cordless phone, hair dryer, walkie-talkie or others radio controlled toys.
- Avoid sand and snow when operating your M5 Stuart Tank.
- Always select a safe place to play. Never drive your M5 Stuart Tank on streets.
- Keep fingers, hair and loose clothing away from the track and wheels while the M5 Stuart Tank is switched on.
- Do not get your rechargeable battery wet. If you do, dry immediately.

Problems and Solutions Guide

If your M5 Stuart Tank does not operate:

- Make sure the batteries are installed properly.
- Recharge your battery.
- Make sure M5 Stuart Tank is turned on and Controller is turned on.
- Make sure the battery contacts have not become dirty. If they have, simply wipe with dry cloth.

If your M5 Stuart Tank responds slowly:

- Recharge the battery.
- You may be out of range, move closer to the M5 Stuart Tank.
- Make sure the battery contacts have not become dirty. If they have, simply wipe with dry cloth.
- Replace the battery in the radio controller.

Problems	Possible Cause	Solution
M5 Stuart Tank does not run	Undercharged battery	Charge the battery. A new battery should have been charged for at least 18 hours before using the M5 Stuart Tank for the first time. After first-time use, recharge the battery for at least 14 hours after each use. Never charge the battery longer than 30 hours.
		Check all connectors. Make sure the battery connector is tightly plugged into the charger connector and that the charger is plugged into wall.
		Make sure power flow to the wall outlet is "ON"
	Charger is not working	There is no sure way to tell if your charger is working unless you have a volt meter.
	Loose wire or loose connector	Check all wires and connectors. Make sure the battery connector is tightly plugged into the M5 Stuart Tank harness connector, and that there are no loose wires around the motor.
	Dead battery	If your battery is old or if you have not followed Battery Care instructions, your battery may be dead.
	Electrical switch damage	The electrical switches can become corroded due to exposure to water or moisture, or can jam due to loose dirt, sand or gravel.
M5 Stuart Tank was running but suddenly stopped	Loose wire or loose connector	Check all wires and connectors. Make sure the battery connector is tightly plugged into the M5 Stuart Tank harness connector, and that there are no loose wires around the motor.
	M5 Stuart Tank is overloaded	Make sure you do not overload the M5 Stuart Tank by towing objects behind the M5 Stuart Tank.
	Driving conditions are too stressful	Use only on generally level ground. Extreme temperatures can also affect run time.

Short run time	Undercharged battery	Charge the battery. A new battery should have been charged for at least 18 hours before using the M5 Stuart Tank for the first time. After first-time use, recharge the battery for at least 14 hours after each use. Never charge the battery longer than 30 hours.
		Check all connectors. Make sure the battery connector is tightly plugged into the charger connector and that the charger is plugged into wall.
		Make sure power flow to the wall outlet is "ON"
	Overcharged battery	Do not charge the battery longer than 30 hours.
	Battery is old and will not accept full charge	Even with proper care, a rechargeable battery does not last forever. Average battery life is 1 to 2 years depending on M5 Stuart Tank use and use conditions. Replace the battery with a 12 Volt (7 Amp/hr.) battery. Do not substitute parts.
	Driving conditions are too stressful	Use only on generally level ground. Extreme temperatures can also affect run time
M5 Stuart Tank runs sluggishly	Undercharged battery	Charge the battery. A new battery should have been charged for at least 18 hours before using the M5 Stuart Tank for the first time. After first-time use, recharge the battery for at least 14 hours after each use. Never charge the battery longer than 30 hours.
		Check all connectors. Make sure the battery connector is tightly plugged into the charger connector and that the charger is plugged into wall.
		Make sure power flow to the wall outlet is "ON".
	Battery need charging	After approximately 45 minutes of constant use, the battery needs charging.
	Battery is old and will not accept full charge	Even with proper care, a rechargeable battery does not last forever. Average battery life is 1 to 2 years depending on M5 Stuart Tank use and use conditions. Replace the battery with a 12 Volt (7 Amp/hr.) battery. Do not substitute parts.
	M5 Light Tank is overloaded	Make sure you do not overload the M5 Stuart Tank by towing objects behind the M5 Stuart Tank.
	Driving conditions are too stressful	Use only on generally level ground. Extreme temperatures can also affect run time.
Sometimes the M5 Stuart Tank doesn't run, but other time it does	Electrical switch damage	The electrical switches can become corroded due to exposure to water or moisture, or can jam due to loose dirt, sand or gravel.
	Loose wire or loose connector	Check all wires and connectors. Make sure the battery connector is tightly plugged into the M5 Stuart Tank harness connector, and that there are no loose wires around the motor.

Charger gets warm during use	It is normal for some chargers to get warm during use and is not reason for concern; Some chargers do not get warm during use.	No action required.
		If your charger does not get warm during use, it does not mean that it is not working properly.
Battery makes a sizzling or gurgling noise when charging	It is normal for some batteries to make noise and swell slightly while charging and is not reason for concern. Some batteries do not make noise or swell while charging.	No action required.
		If your battery does not make noise or swell slightly during charging, it does not mean that it is not accepting the charge.

IF THERE IS NO FUNCTION BETWEEN THE RADIO CONTROLLER AND THE M5 STUART TANK:

- n Make sure you have turned ON the Radio Controller and the M5 Stuart Tank.
- n Make sure your M5 Stuart Tank is fully charged.
- n Check that the batteries are inserted properly.
- n Replace the old 9 V battery with new 9 V alkaline battery (for Radio Controller)
- n Replace the old 12 V Sealed Lead-Acid Rechargeable battery with new 12 V Sealed Lead-Acid Rechargeable battery (for M5 Stuart Tank).
- n Move the Radio Controller closer to your M5 Stuart Tank to determine the best communication between the Radio Controller and the M5 Stuart Tank. (The operating range is approximately 25 to 30 feet)

IF YOUR M5 STUART TANK FAILS TO CHARGE:

- n Make sure the lead acid rechargeable battery have been inserted properly.
- n Make sure you have connected your M5 Stuart Tank onto the connectors securely.

IMPORTANT!

If you experience a problem with your M5 Stuart Tank, first check the Problems and Solutions Guide above. If you still experience a problem, please contact Ultimate Solider® Consumer Relations at **1-510-481-6010** between 9 AM and 5 PM (EST) Monday through Friday.

Modifications not authorized by the manufacturer may void user's authority to operate this device.

Emissions or interference of surrounding electronic equipment may affect operating performance.

FCC NOTICE !

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver

- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

If, after reviewing the Problems and Solutions Guide, the vehicle still fails to operate, please contact Ultimate Solider® Consumer Relations at **1-510-481-6010**.

Hint: For faster service when calling Consumer Relations, completely charge the battery before calling and have the following available by the phone: M5 Stuart Tank and radio controller, M5 Light Tank model number (see packaging box), Phillips screwdriver is helpful.

IMPORTANT !

DO NOT use this M5 Stuart Tank for the first time until you have charged the battery for 18 hours.

Remember to...

- Û Charge the battery immediately after each use.
- Û Charge the battery once a month during storage, even if the M5 Stuart Tank has not been used.

Failure to follow these instructions will permanently damage your battery. Please refer to the Battery Care Section in this manual for more information.

DO NOT Return your M5 Stuart Tank to the Store !

If you are missing parts or need assistance, please call us toll-free:



**Ultimate Solider® Consumer Relations
1-510-481-6010**

9 AM - 5 PM EST, Monday through Friday.

21st Century Toys, Inc., San Leandro, CA 94577 USA.
© 2003 21st Century Toys, Inc. All Rights Reserved.

PRINTED IN CHINA